

Appl. No. 10/06,420  
Reply to Office Action of 08/14/2006

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**REMARKS:****Status of the Claims**

Claims 1-184 were originally filed. Claims 1-184 were rejected in the Office Action of August 14, 2006.

In this amendment, claims 1-184 are canceled, without prejudice. New claims 185-212 are added. Support can be found throughout the specification: for example, paragraphs [0062], [0083], figures 1, 3, 10, 13, 15, 22, 24-27, 31, and 35. No new matter has been introduced. Applicants respectfully request reconsideration and withdrawal of rejection in view of the following remarks.

**The Claimed Invention**

The claimed invention relates to a novel beverage composition that fulfills a long-felt need in the beverage industry. The present inventors surprisingly discovered that a mixture of at least three carbohydrates, when combined with optimal amounts of sodium and chloride, provides a beverage composition that has unexpected advantageous properties.

Our inventors have surprisingly discovered that the presently claimed beverage composition exhibits unexpected superiority over other commercial beverages. For example, the claimed beverage composition is shown to cause over 80 % fluid retention in human subjects after exercise (*See*, figures 10, 13, 15, 22, 27, and 31). In sharp contrast, POWERade® (containing only two carbohydrates, fructose and maltodextrin) fails to achieve this effect (*See*, figures 15, 27). The claimed beverage composition also reduces urine loss, another property that is not shared by POWERade® (*See*, figure 16). These findings are totally unexpected because one skilled in the art would not recognize a combined effect of a carbohydrate source of at least three (3) carbohydrates and sodium (~30 to 60 mEq/L) and chloride (~10 to 20 mEq/L). The criticality of the chloride level is also clearly demonstrated in that a chloride amount of 30 mEq/L or greater causes a negative sensory attribute (*See*, paragraphs [179], [189], figures 24-26).

**1. Claim Rejections Under 35 U.S.C. § 112**

Claims 50, 55, 62, 123, 131, 138, 170, 174, 178, and 182 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly

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claim the subject matter which applicants regard as the invention. Examiner alleges that these claims are indefinite in the use of the phrase "from about 40 to about 78 mEq/L of ions which favor the filing of the extracellular fluid compartment" is indefinite in that it is not known which ions applicants are referring to.

To expedite the prosecution, Applicants cancel claims 1-184, without prejudice. Applicants respectfully submit new claims 185-212 in order to better present the proper claim format and to recite the inventive embodiments with clarity and particularity. Claim language rejected by the Examiner has been amended to recite proper amounts of the specific ions (i.e., sodium, chloride, and potassium) in claims 185-212. Accordingly, this rejection is considered to be moot.

**2. Claim Rejections Under 35 U.S.C. § 102**

Claims 1, 2, 4-10, 50, 51, 54, 69-75, 93-99, 101-107, 123, 124, 129, 145-151, 169-171, 173, 175, 177-179, and 181-183 are rejected under 35 U.S.C. § 102(b) as being anticipated by Auzerie (FR 2770778 A1). Examiner alleges that Auzerie discloses an identical rehydration solution.

Without agreeing with the merit of the rejection, Applicants respectfully submit new claims 185-212 to better recite the claimed beverage composition which contains a carbohydrate source of at least three (3) carbohydrates. Together with optimal amounts of sodium and chloride, the claimed beverage composition has shown to possess superior properties over prior art beverage compositions. The properties include high fluid retention (at least about 80 % fluid retention) and reduction of urine loss in a human subject after exercise. The claimed beverage composition also does not have a negative sensory attribute. Because Auzerie only discloses sucrose and glucose (admitted by the Examiner), this reference cannot anticipate the new claims. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102 rejection be withdrawn.

**3. Claim Rejections Under 35 U.S.C. § 103**

Claims 3, 11-49, 52, 53, 55-68, 76-92, 100, 108-122, 125-128, 130-144, 152-168, 172, 174, 176, and 180 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Auzerie (FR

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2770778 A1) in view of Howard *et al.* (US 5,968,544) and Kuznicki *et al.* (US 5,681,569).

Examiner alleges that the use of particular types and amounts (of carbohydrates, minerals, flavoring agents, and clouding agents) is seen as being within the skill of the ordinary worker. (see Office Action, page 4, line 21 to page 5, line 18)

At the onset, Applicants respectfully point out that Examiner's position is misplaced. Applicants submit that discovering a novel beverage composition is a non-obvious invention. It is noteworthy that many attempts have been made by the beverage industry to prepare a better rehydration solution, yet many attempts have failed (See, "Background of the Invention"). It is necessary for a rehydration beverage not only to replenish water, but also electrolytes. The difficulty is to invent a rehydration beverage that can increase fluid retention and maintain positive fluid balance, while having good palatability.

The present inventors have discovered a novel and non-obvious beverage composition that has superior properties over other commercial beverage compositions (e.g., POWERade®). The claimed beverage composition provides superior rehydration by improving fluid retention and reducing urine fluid loss. The claimed beverage composition also improves voluntary fluid intake. In particular, the levels of sodium, chloride, and potassium are optimized so that maximized rehydration is achieved by causing at least about 80 % fluid retention in a human subject after exercise without compromising sensory attributes. While the other beverage compositions may have some overlapping ingredient types and amounts, the claimed invention has demonstrated the criticality of the ingredient types and amounts to provide an improved beverage composition with superior rehydration and positive sensory attributes.

Auzerie fails to suggest, teach, or disclose the use of a mixture of three (3) carbohydrates, let alone its combined use with ~30 to 60 mEq/L sodium, ~10 to 20 mEq/L chloride, and ~8 to 20 mEq/L potassium in a rehydration beverage composition. Auzerie also fails to suggest or teach one skilled in the art that increasing or decreasing the amounts of sodium, chloride, or potassium may affect fluid retention, urine loss or sensory attributes. The defects in Auzerie cannot be cured by Howard and Kuznicki. Even, *arguendo*, the references were to combined, they cannot arrive at the claimed invention.

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In addition, the present inventors have clearly shown that the claimed ranges (e.g., ~30 to 60 mEq/L sodium, ~10 to 20 mEq/L chloride, and ~8 to 20 mEq/L potassium, when coupled with ~4-10 % by weight of three carbohydrates), achieved unexpected results of improving fluid retention, reducing urine loss, and eliminating negative sensory attributes relative to the prior art ranges disclosed in Auzerie, Howard, and Kuznicki. (See, paragraphs [0062], [0083], figures 1, 3, 10, 13, 15, 22, 24-27, 31, and 35).

Accordingly, Applicants respectfully submit that the claimed beverage composition is non-obvious. Applicants respectfully request that the 35 U.S.C. § 103 rejection be withdrawn.

#### CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration, withdrawal of rejections, and allowance of all claims now present in the application.

The Commissioner is authorized to charge any required fees, including any extension and/or excess claim fees, any additional fees, or credit any overpayment to Goodwin Procter LLP Deposit Account No. 06-0923.

Respectfully submitted for Applicants,



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